



Evaluate Si Layers

Cooperative Research and Development Final Report

CRADA Number: CRD-07-255

NREL Technical Contact: Charles Teplin

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In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

CRADA Number: CRD-07-255

CRADA Title: Evaluate Si Layers

Parties to the Agreement: Ampulse Corporation

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$ 245,000.00
Year 2	\$ 265,000.00
Year 3	\$ 2,280.00
Year 4	\$ 19,708.00
TOTALS	\$ 531,988.00

Abstract of CRADA work:

Evaluate Si layers based on heteroepitaxial Si growth on RABITS textured metal substrates coated with textured buffer layers.

Summary of Research Results:

We made excellent progress demonstrating the potential of : 1) heteroepitaxial c-Si photovoltaics (>10 % solar cell) silicon photovoltaics on buffered Cu foil (2% solar cell), hydrogen passivation of dislocations in c-Si, and light trapping for thin c-Si photovoltaic absorbers.

Subject Inventions Listing:

1. U.S. Application No. 12/537,185, filed August 6, 2009, “A Photovoltaic Cell with Back-Surface Reflectivity and Scattering”
2. U.S. Application No. 12/537,152, filed August 6, 2009, “Back Contact to Film Silicon on Metal for Photovoltaic Cells”
3. U.S. Application No. 13/148,925, filed August 10, 2011, “Crystal Silicon Processes and Products”

4. U.S. Application No. 13/777,974, filed February 26, 2013, “Back Contact to Film Silicon on Metal for Photovoltaic Cells”

Report Date: January 31, 2013

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